

Summary

Title: COMPOSITE POWDER CONTAINING CROSSLINKED POLYMER
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Assignee: AMUKO ENTERP KK
Inventor(s): NAKA KIYOMI ; KIKUCHI NORIHIRO ; NARISAWA IKUO
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Abstract:

PROBLEM TO BE SOLVED: To obtain the subject powder capable of directly carrying out melt molding such as injection molding or extrusion molding and providing a molding having good performance by containing a crosslinked polymer in a thermoplastic resin.

SOLUTION: This composite powder comprises a crosslinked polymer and a thermoplastic resin. For example, crosslinked rubber, crosslinked polyolefin, etc., is exemplified as the crosslinked polymer. The crosslinked polymer is preferably pellet-like crude body having ≤ 5 mm particle diameter. An inexpensive polyethylene or polypropylene having good processability is preferably used as the thermoplastic resin when recycle of crosslinked rubber, etc., of waste tire is aimed. The composite powder is obtained by charging a mixture of a crosslinked polymer coarse particles with thermoplastic resin pellet into a stone mill type kneading and extruding machine or a twin kneading and extruding machine and pulverizing the kneaded and extruded material by high shear force at a temperature lower by $10-50^{\circ}\text{C}$ than the melting temperature of the thermoplastic resin. Blend amount of the crosslinked polymer is preferably 50-90wt.%. Particle diameter of the powder is preferably $\leq 300\mu\text{m}$.

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